

THE BRITISH EPERMENIIDAE

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This is a small family, which was often placed in the superfamily Yponomeutoidea, but which has recently been placed in its own superfamily (Schnack, 1985; Scoble, 1991). The family contains approximately 100 species world-wide, 25 in Europe and eight in the British Isles. The European species were revised by Gaedike (1966) who illustrates the genitalia of all species. He recognizes four genera in two subfamilies, one genus and subfamily being absent from Great Britain (*Ochromolopsis* in the *Ochromolopinae*).

All species feed on the leaves or seeds of plants in the families Apiaceae or Santalaceae. The only British member of the Santalaceae is the bastard toadflax, *Thesium humifusum* DC., the food plant of *Epermenia insecurella*; all the other British species attack Apiaceae. However, other European species attack Santalaceae and, if one accepts the classification of Gaedike as an evolutionary hypothesis, there must have been at least three host plant switches between the two families. The Apiaceae and Santalaceae are not closely related and we shall argue elsewhere that a more parsimonious classification can be constructed that involves only a single switch in food plant family. If this suggestion is correct then the original food plants for the family were in the Santalaceae and there has been a secondary radiation on the Apiaceae.

The British moths in this family are between 8 and 15 mm in wingspan and appear superficially similar to acrolepiines or gelechiids. *Epermenia* spp. and *Phaulernis dentella* have well-developed scale teeth on the dorsum: tufts of scales that give the moth, when at rest, a ridgeback appearance. It is possible that further species in this family remain to be discovered in Great Britain. For example, it would be worth checking spun seeds of *Peucedanum officinale* L. for the central European species *Cataplectica dentosella* (Herrich-Schäffer).

Phaulernis dentella (Zeller), Plate V, Fig. 1

Wingspan 9–10 mm. Forewings nearly unicolorous, in fresh specimens with indistinct lighter patches. Larva with dark brown head and yellowish body with darker lines. Feeds in July and August in spun seeds of *Chaerophyllum temulum* L. (= *C. temulentum*), *Pimpinella* spp., *Aegopodium podagraria* L. and perhaps other Apiaceae. The moth overwinters as a pupa and flies in June when it can be found on sunny days on the flowers of its food plant. Widespread but local in Southern England from East Anglia to Cornwall.

Phaulernis fulviguttella (Zeller), Plate V, Figs 2 and 3

Wingspan 10–11 mm. Thorax and forewing ground colour fuscous with an orange head and orange spots on wings. Specimens from the Shetlands (and the Alps) are larger with heavier spotting (Fig. 3) and were once separated as *aurumaculata* Frey. Larva with dark brown head and whitish body with raised grey spots and a brownish subdorsal line. Feeds in spun seeds of *Heracleum sphondylium* L. and *Angelica sylvestris* L. between September and October. Overwinters as pupa, the moth flying in July and August when it can be found resting on its foodplant. Widespread and locally common throughout the British Isles.

Cataplectica farreni Walsingham, Plate V, Fig. 4

Wingspan 9–10 mm. Forewing ground colour fuscous with whitish spots which may coalesce to form an indistinct fascia. Larva with brown head and pale yellow body with darker, interrupted subdorsal lines. Feeds within individual seed capsules of *Pastinaca sativa* L. and perhaps other Apiaceae from August to September. The moth flies in June and July. Rare, though perhaps overlooked, recorded from the South Midlands, East Anglia and Aberdeenshire.

Cataplectica profugella (Stainton), Plate V, Fig. 5

Wingspan 8–10 mm. Forewing unicolorous brown with a bronze sheen in fresh specimens. Larva with black head and prothoracic plate and dirty creamy-yellow body with a wide, dull purplish-pink dorsal band and indistinct sublateral bands. Feeds within the spun seeds of *Daucus carota* L., *Pimpinella saxifraga* L., *Angelica sylvestris* L. and *Aegopodium podagraria* L. between September and October. Overwinters as pupa, the moth occurs in July and August when it can be found flying around the foodplant in early evening sunshine. Local throughout England from the Isle of Wight to Northumberland, often found on downlands.

Epermenia illigerella (Hübner), Plate V, Fig. 6

Wingspan 12–14 mm. Forewing ground colour ochreous-fuscous with darker infuscations, especially distally. The cilia are white-tipped except near the apex which gives the wing a subfalcate appearance. There are two or three scale teeth on the dorsum. Larva with orange-brown head and yellow-green body with a darker dorsal line. Bivoltine, the first generation feeds in May and June in the spun leaflets of *Angelica sylvestris* L. and *Aegopodium podagraria* L. The second generation feeds in August on the same foodplants, either in the umbel or in the floret stem beneath. The moth flies in June and July and again in August and September. Fairly common in England from the Midlands southwards.

Epermenia insecurella (Stainton), Plate V, Fig. 7

Wingspan 9–11 mm. Forewing ground colour white with a variable amount of grey scaling that coalesces to form an indistinct fascia and a dark subterminal area. There are also two small black dots on disc and up to five ochreous patches on disc and dorsum. Dorsum of forewing with two scale teeth. Larva with black head and yellowish body with brownish dorsal and subdorsal lines. Bivoltine, feeds in April and May and again in July on *Thesium humifusum* DC., the young larva feeding in full-depth mines in the leaves and also in the petiole; older larva feeding externally. Larvae in the second generation feed on flowers and unripe seeds. The moth flies in May and June, and a second generation in July and August. Local and rare in central-southern England and infrequently observed in recent years. Though possibly under-recorded, it is absent from several localities where its foodplant is common.

Epermenia chaerophyllella (Goeze), Plate V, Fig. 8

Wingspan 12–13 mm. A variable species, the forewing colour from creamy-white to fuscous. An indistinct fascia is visible on lighter specimens with more extensive infuscation distally as well as ochreous patches, especially at three quarters. In darker specimens, the whole wing is more or less infusate though an ochreous patch at three quarters is normally visible. Cilia white-tipped except near apex so that wing appears subfalcate. There are three or four black and ochreous scale teeth. Larva with pale brown head and yellowish body with a whitish dorsal line and black or brown spots. Feeds on *Heracleum sphondylium* L., *Pastinaca sativa* L., *Anthriscus sylvestris* (L.) Hoffm.,

Angelica sylvestris L., *Daucus carota* L. and probably other Apiaceae. When young, the larva mines the leaves from the underside in short, squat mines, expelling the frass in mounds at the entrance to the mine. Later feeding on the underside of the leaf, often gregariously, in a slight web and producing 'windows' in the leaf. Found from mid-May to September in two or three overlapping generations. Overwinters as an adult, the moth can be found in all months of the year but is most frequent from October to May and in July and August. The most abundant member of the family, found throughout the British Isles.

Epermenia aequidentellus (Hofmann), Plate V, Fig. 9

Wingspan 9–12 mm. Forewing narrower than congeners. Ground colour variable, normally light fuscous with areas of darker infuscation, especially medially and in terminal areas, though in some specimens the ground colour is creamy-white or the infuscation much heavier. There are four dark scale teeth on dorsum. Larva with black head and prothoracic plate and yellow-green body with black or brown spots and darker dorsal line. Feeds in May and June and again in August and September on *Daucus carota* L. and *Pimpinella saxifraga* L., at first in a small blotch mine and then later feeding externally in a slight web. The moth flies in June and July, and the second generation in September and October. Local in Central-southern and South-west England, found most frequently near the coast.

REFERENCES

- Gaedike, R. (1966) Die Genitalien der europäischen Epermeniidae. *Beitr. Ent.* 16 633–692.
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Revised standing order forms and deeds of covenant were issued recently and I would ask that these could be returned as soon as possible to the Assistant Treasurer and in any case before 31st December. Prompt action on this will save the Society considerable work and expense.—A. J. Pickles, Treasurer.